

GB **Operating Instructions**
V 86/1 digi 16 M2
V 86/2 digi 32 M2

WA-EKF 1801/10.92/30/S:Mo/D:Ko/80.10.0530.7

1. General

The use of modern components and proven software allows simple and logical operation. This means that you can program this digital/electronic time switch almost in your usual "handwriting".

Before connecting the time switch and putting it into operation, you should carefully read the operating instructions to be able to make optimum use of all functions. The instructions below apply equally to the 1-channel and 2-channel versions.

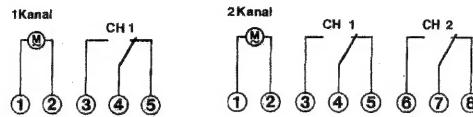
2. Putting into operation

Electrical units may be installed only by a skilled electrician (the definition of skilled electrician can be found in VDE 0105).

Note:

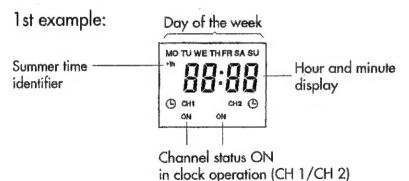
This device contains highly complex electronic circuitry. This electronic circuitry is largely protected against outside interference. However, it must be noted that the mains voltage (depending on installation site) may be subject to strong superimposed interference voltage peaks. Disturbance also occurs when contactors are switched and this disturbance can affect an electronic device despite all internal protective measures. In order to ensure the greatest possible degree of operational safety, please follow the details below when connecting the unit:

- a) On large systems, it is necessary to suppress the interference voltage on contactor coils which are switched directly by the time switch using a suitable varistor or RC element.
- b) If inductive DC loads are switched, it is necessary to install a suppressor diode.
- c) Inductive loads, particularly fluorescent lamps, represent a particularly heavy strain for output contacts. Here, it is necessary to install an isolating relay or a contactor.

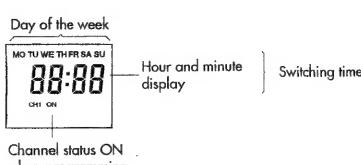
**3. LCD display-unit**

The display contains a multitude of elements in order to clearly show the various data and information.

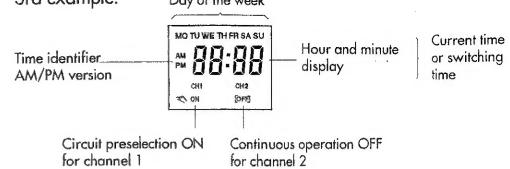
1st example:



2nd example:



1st example:

**4. Data management within the time switch**

a) Blocks

The time switch is designed as a weekly clock, switching times can be assigned to single days as well as to blocks of days.

If switching should take place at the same time on different days of the week, this can be achieved with the following weekday blocks:

Monday – Sunday (Mo Su)
 Monday – Friday (Mo Fr)
 Saturday – Sunday (Sa + Su)

Single-day programming is, of course, possible.

Note:

If both channels should be switched at the same time (ON or OFF), these switching times are to be entered individually per channel.

b) Memory space

The memory capacity is 16 spaces per channel. 8 switching pairs being available per channel in each case (8 ON and 8 OFF).

c) Carrying out the switching commands

Whenever the program or time (e. g. summer/winter time switchover) is altered or in the event of manual intervention, all memory locations are "interrogated" and the processor establishes the circuit state which corresponds to the "current status" in accordance with the program.

5. Description of keyboard-functions

In order to enter the current time, the corresponding keys must be pressed in combination with the \odot key.

$\odot +$ Day for entering the current day of the week
 $\odot +$ h+ for entering the current time (hours)
 $\odot +$ m+ for entering the current time (minutes)

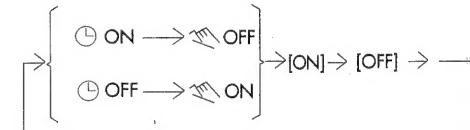
The relevant keys are always only pressed individually for all further entries or for scanning the programmed switching times.

\odot for selecting the standard display (current status)
 Day for selecting the relevant day of the week for switching times

h+ for entering the hours for switching times
 m+ for entering the minutes for switching times

CH 1 for selecting the relevant memory space per channel
 CH 2 when programming switching times – ON or OFF – and transfer to the memory

\swarrow 1 for manual alteration of the relay conditions of the relevant channel
 \searrow 2



+ 1 h for selecting summer time or winter time

Res. for deleting all stored switching times and the current time in the display and memory

6. Entering the current time

It must be assumed that the battery of the time switch is empty when it is put into operation. It can take up to 2 minutes before the various segments in the display light up (battery charging procedure).

Using a pencil or a similar object, press the "Res" button in order to set the electronics to "neutral". All segments in the display will be visible for approximately 5 sec.



There then appears:



In order to enter the current time, it is necessary to keep the \oplus key pressed.

The entry of day, hour and minute can be made in any sequence. You can enter the data in your usual "handwriting".

If the current time is in the 6 months of summer, it is also necessary to press the "+1h" key. The time is advanced by 1 hour and the identifier "+1h" appears in the display.

Example: Keys: Display:

16:20
Thursday
Keep \oplus pressed.
Press Day, h+
and m+



If the keys h+ and m+ are pressed for longer than 2 seconds, fast forward (roll mode) is initiated.

Compare time with, for example, radio/television/telephone time announcement.

A colon flashes in the display between the hour and minute display during normal operation.

7. Programming switching times

Entry of switch-on and switch-off times (each channel) is initiated and concluded (stored) using keys CH 1 and CH 2.

When this/these key(s) are pressed, the memory space for an ON command followed by the memory space for an OFF command appears alternately.

After the individual switching times have been entered, these are transferred to the memory with the CH 1, the CH 2 or the \oplus key.

Example: Keys: Display:

Mo, Tu, We, Th, Fr
6.00
Channel 1 ON
Call up CH 1
memory space for
ON command,
Day
h+, m+
MO TU WE TH FR
06:00
CH1 ON

This switching command is stored
with CH 1 or \oplus

With the button \oplus the switching point will also be transferred to the memory. The display now shows the clock status.

The corresponding switch-off times are programmed in the same way.

If the programming procedure is interrupted for approx. 1 to 2 minutes, the display returns to the current time of day and the contents of the display is automatically stored in the memory.

Partial entries, e. g. only hours, are transferred to the memory but are not effective as a switching command. See Point 8 c.

To return the display to the current time press the \oplus key.

8. Read - Change - Delete - Reset

a) Read

The programmed switching times are "read" (each channel) step by step with the CH1 or CH2 key. Each display contents corresponds to one memory space.

b) Change

A command called up with key CH1 or CH2 can be changed (corrected) in the display (display data are simply written over):

With the button \ominus the switching point will also be transferred to the memory. The display now show the clock status.

c) Delete

If one of the entered switching times is rendered ineffective, it is sufficient if a part of the entry is "deleted". e. g.: 06:-- or --:30; or --:--.

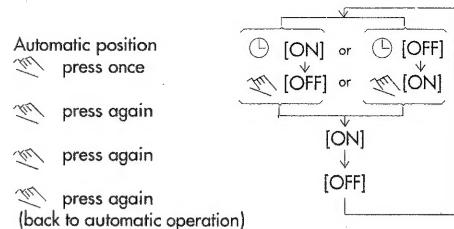
The entries are deleted with h+ or m+ by increasing the hours over 23, or the minutes over 59.

d) Reset

The complete memory contents, including the time, are deleted when the "Res" key is pressed.

9. Manual switching of channels

With the buttons \leftarrow 1 and \rightarrow 2 the respective channels can be switched as follows:



Remark:

A channel switch has been manually set to \leftarrow ON or \rightarrow OFF will automatically be set back to automatic operation at the next switching time. The next switching point will be executed automatically.

The status [ON] and [OFF] can only be set back to automatic operation by pressing the button \leftarrow .

10. Technical data

Dimensions (HxWxD)	45x35x68 (53) mm
Distribution board section	46x36 mm
Installation depth	68 (53) mm
Weight (g)	170 (130)
Connection	See order data
Power consumption	5 VA
Switching capacity AC - resistive load (VDE, IEC)	16 A/250 V~ μ - 1 channel 10 A/250 V~ μ - 2 channel
- inductive load $\cos \phi 0,6$	2,5 A/250 V~ 1000 W
- incandescent lamp load	
Switching capacity DC 24 V-/60 V-/220 V-	800 mA/300 mA/150 mA
Switching output	2 or 1 relay
Switching contacts	2 or 1 changeover switch
Contact material	silver cadmium oxide
Ambient temperature	-10° C to +55° C
Protection class (VDE 0633)	II
Accuracy	typ. 2.5 sec/day at +20° C
Running reserve	150 h at +20° C
Charging time NC Accu	140 h
Shortest switching time	1 minute
Programmable	every minute
Memory space	32 (16)
Override	yes
Manual switch	Automatic operation / override/ Fix ON/FixOFF
Switching status indication	yes
Connector type	Screw terminals
Block formation	Weekday block formation
Summer/winter time switchover	yes
Sealing	possible